

In the Claims:

Please amend the claims as follows:

1. (currently amended) ~~Method~~ A method for fault detection in a power transformer/autotransformer and/or interconnected power lines that are within a zone protected by a differential protection, the method being particularly suitable for detecting turn-to-turn faults in power transformer/autotransformer windings and including measuring all individual instantaneous phase currents of the protected object and calculating individual phase currents as fundamental frequency phasors, the method comprising;

calculating the contributions of the individual protected object sides negative sequence currents to the total negative sequence differential current by compensating for the phase shift of the power transformer within the protected zone;

comparing the relative positions of the compensated individual sides negative sequence currents in the complex plane, in order to determine whether the source of the negative sequence currents, i.e. the fault position, is within the protected zone or outside of the protected zone, delimited with current transformer locations; and

disconnecting the protected object if determined that the source of the negative sequence currents is within the protected zone.

2. (currently amended) ~~Device~~ A device for detecting a fault in a power transformer, autotransformer or interconnected power lines, that are within a zone protected by a differential protection, and particularly suitable for detecting turn-to-turn faults in power

transformer/autotransformer windings, the device comprising;

means for measuring all individual instantaneous phase currents of the protected object;  
~~and;~~

means for calculating individual phase currents as fundamental frequency phasors;  
~~characterized by;~~

means for calculating the contributions of the individual protected object sides negative sequence currents to the total negative sequence differential current by compensating for the phase shift of an eventual power transformer within the protected zone;

means for comparing the relative positions of the compensated individual sides negative sequence currents in the complex plane, in order to determine whether the source of the negative sequence currents, i.e. the fault position, is within the protected zone or outside of the protected zone, delimited with current transformer locations; and

means for disconnecting the protected object if determined that the source of the negative sequence currents is within the protected zone.

3. (currently amended) ~~Device~~ The device according to claim 2, ~~characterized by that,~~  
further comprising:

a fault discriminator ~~is included, that is~~ arranged to determine when a fault occurs.

4. (currently amended) ~~Device~~ The device according to claim 2, further comprising: ~~or~~  
~~3, characterized in that,~~

a fault discriminator ~~is included, that is~~ arranged to determine if the fault is internal or external.

5. (currently amended) A computer program product, comprising:  
a computer readable medium;  
computer program instructions recorded on the computer readable medium, executable  
by a processor for performing the step of:  
~~computer program code means for carrying out the steps of a method according to claim~~  
~~1~~  
calculating the contributions of the individual protected object sides negative sequence  
currents to the total negative sequence differential current by compensating for the phase shift of  
the power transformer within the protected zone;  
comparing the relative positions of the compensated individual sides negative sequence  
currents in the complex plane, in order to determine whether the source of the negative sequence  
currents, i.e. the fault position, is within the protected zone or outside of the protected zone,  
delimited with current transformer locations; and  
disconnecting the protected object if determined that the source of the negative sequence  
currents is within the protected zone.

6. (cancelled)

7. (currently amended) A The computer program product, according to claim 4, ~~that is,~~  
wherein the computer program instructions are further for carrying out the step of at least  
partially, provided providing the computer program instructions through a network, ~~such as e.g.~~  
~~internet.~~

8. (new) The computer program product according to claim 7, wherein the network is the internet.